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ABSTRACT

Robert Gagne's model as presented in "The Conditions of Learning" (1970) is modified, extended, and used to form a logical model applicable to planning and teaching the social studies. It is used to develop planning procedures and to sequence instructional activities consistent with attaining complex levels of student learning. Sample activities are provided for each of the five levels of learning: verbal association, discrimination learning, concept learning, rule learning, and problem solving. Each sample activity contains eight component parts including (1) focus, (2) learning objectives, (3) instructional set, (4) student directions, (5) student activities, (6) format of answer or decision sheet, (7) activity follow-up question, and (8) transfer readiness data. A similar model can be used as a basis for creating pre-objectives and test-items at each level. Social studies teachers and supervisors from three Florida counties found the modified Cagne model to be a useful construct for teachers who desire ways of teaching concepts and problem solving skills in intermediate and secondary social studies classrooms. (Author/DE)

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A MODEL TO CREATE INSTRUCTIONAL ACTIVITIES INTENDED TO DEVELOP STUDENT CONCEPT LEARNING AND PROBLEM SOLVING SKILLS: A MODIFICATION OF GAGNE'S CONDITIONS OF LEARNING FOR SOCIAL STUDIES INSTRUCTION

by

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ABSTRACT

Teachers are in need of ways to define social studies concepts, plan and develop conceptual learning and problem solving instructional activities, and diagnose and assess student learnings consistent with the goals they posit for their courses.

Gagne's model, presented in THE CONDITIONS OF LEARNING (1970), can be modified in order to assist teachers in developing instructional activities consistent with complex levels of student learnings. The model also can be applied to planning and teaching the social studies. Social studies teachers and supervisors who examined prototype materials perceived Gagne's model, as modified, to be a useful construct.

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A MODEL TO CREATE INSTRUCTIONAL ACTIVITIES INTENDED TO DEVELOP STUDENT CONCEPT LEARNING AND PROBLEM-SOLVING SKILLS: A MODIFICATION OF GAGNE'S CONDITIONS OF LEARNING FOR SOCIAL STUDIES INSTRUCTION[1,2]

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INTRODUCTION

One of the major problems in the field of social studies education is the looseness or non-specificity of many of the definitions and terms which play such an important role in the planning, organization, and assessment of instruction. This looseness of definition may contribute to a discrepancy between what teachers would like to teach and what they, in fact, do teach. For example, the classroom teacher interested in having students learn the meaning and appropriate use of the concept "conflict" should operate from a clearly articulated definition of the concept.

Lacking specific definition, many social studies concepts currently being taught or studied run the risk of being misunderstood or misused by students. When this occurs, the teaching of social studies

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[1]The authors are indebted to John W. Gregory, Department of Secondary Education, University of Florida, for his major contributions in the conceptualization and prototype development stages of the project.

[2]The model and related materials to be discussed herein are an extension of a Florida Department of Education State-Wide Assessment Project at the University of Florida, College of Education. The final products of the project include eight cognitive and three normative prototypes which contained the basis for the model presented in this paper. The authors express their sincerest appreciation to Dr. Patricia Spears, Social Studies Consultant, Florida Department of Education, Knott Bldg., Tallahassee 32304, for her permission to use and discuss aspects of the project and its materials for purposes of writing this paper.

becomes almost meaningless. Without an adequate understanding of the concepts being studied, students are less likely to understand, explain or make meaningfull decisions about social studies content. One step on the way toward improving instruction and increasing student learning in the social studies is to assist teachers in developing precise definitions of the concepts to be studied. However, developing precise definitions in itself will not be enough. In order to be effective, teachers must know ways of incorporating these definitions into an overall instructional strategy. Such a strategy should include the planning and development of conceptually-based social studies instructional activities designed to achieve higher levels of student learnings.

The purposes of this paper are to report an attempt to extend Gagne's ideas into the realm of social studies instruction and to suggest ways one might plan for and develop social studies instructional activities consistent with this extended Gagnean model. Specifically, the paper will: (1) describe the Gagnean model as it may be extended to include the social studies; (2) present a model which can be used to create classroom instructional activities consistent with five complex levels of student learnings; (3) outline a format for pre-objectives and test-items which can be written to diagnose student learnings and to assess the effectiveness of instruction; and, (4) summarize the reaction of Florida social studies teachers and supervisors to prototype materials based on the Gagne model.

EXTENDING GAGNE INTO THE SOCIAL STUDIES

The literature related to social studies concept learning and the conditions of learning described by Gagne suggest that Gagne's model can be extended into the social dimension of experience in order to

fit the nature of the social studies. Five of Gagne's levels of learning--problem solving, rule learning, concept learning, discrimination learning, and verbal associations--possess the greatest potential for those who would teach conceptually based social studies content and logical procedures of social inquiry. In order to use these five levels, modifications and clarification of Gagne's model at the concept definition stage and the rule learning and problem-solving levels are needed to make the model consistent with social science and behavioral science concepts and data.

Defining Concepts:

Concepts are abstractions by which men sort out and arrange different aspects of human experience. The names given these abstractions are labels assigned to specific and unique activities, behaviors, or phenomena for the purpose of assisting an individual to understand and find meaning in his experience. Concepts and their labels also enhance an individual's ability to describe and explain more consistently and correctly his experiences and enable him to communicate more effectively to others. Given that they are labels for abstract phenomena, concepts may be defined in terms of the situational or observable conditions necessary for the application of the appropriate label. Such definitions can be written to stipulate clearly the condition(s) that must be present in order for the concept label applied to be accurate. Either the condition implied by the label exists or it does not.[3] If the specific condition is met,

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[3]One is reminded of pregnancy. Either one is pregnant or she is not. One cannot be "almost" or "nearly" pregnant. In other words, the condition for pregnancy either exists or it does not. It is being suggested here that social studies concepts may be and can be defined in terms of such exacting conditions.

then it can be described by attaching to it the concept label congruent with the condition. For example, the concept of "conflict" may be defined abstractly as:

> If and only if there are two or more mutually incompatible entities within a system, then there is conflict.

In this way, every concept applicable to the social studies may be defined abstractly in terms of its prerequisite conditions. Such definitions can take the form of "If and only if . . ., then . . . ." conditional statements, i.e., "If and only if the conditions for A are met, then concept A exists."

To be able to write abstract definitions in the form of conditional statements, each concept selected for study should be analyzed empirically. This means that each concept is examined and analyzed in order to determine how scholars in the various social and behavioral science disciplines define the concept label and use the concept to categorize phenomena. For example, the abstract definition of the concept "conflict" presented above resulted from an investigation into the fields of history, economics, political science, psychology, sociology, social psychology, and philosophy. With definitions acquired from scholars in disciplines such as these serving as the empirical basis for synthesis, a concept can be defined abstractly in terms of the conditions which are unique to it. At the same time, the concept remains consistent with the social science disciplines and the social studies. Using this approach to defining concepts, abstract definitions expressed in a conditional manner can be especially useful for social studies instruction since they are not tied to any specific social science discipline. In this sense, social studies concepts are, by definition, "content-free." (The definition

of conflict presented earlier is illustrative of what is meant by a content-free social studies concept.)

After arriving at an abstract definition, the first of three dimensions of defining concepts, each concept can be further analyzed and defined along two additional dimensions (See Figure 1). The second dimension, the conditional definition, provides for each concept to be examined from the perspective of the social scientists in terms of the kinds of conditions he would expect to be present for a particular concept label to be used. In other words, this dimension of defining concepts considers how different social scientists use different forms of the concept to explain or describe social phenomena. For example:

> conflict is likely to be present if groups have moved toward extreme ideological positions (group conflict);
>
> or
>
> conflict is likely to be present when one is forced to make a choice between two equally attractive options (cognitive dissonance).

The third dimension, the utilitarian definition, identifies specific situations or events social scientists would most likely cite as examples of the concept within their discipline. The examples a sociologist, a political scientist, and a historian would give as instances of conflict situations would fit this dimension of defining concepts. Two situations that social scientists use as examples of the concept conflict are:

> the confrontation of police and protesters during the 1968 Democratic Convention in Chicago;
>
> or
>
> a woman who can't decide whether she sould stay at home with the children or put them in nursery school so that she can get a job.

I.	Abstract Definition	If and only if_____ _____ _____ _____
II.	Conditional Definition	Social Scientists use this concept in the following situations: _____ _____ _____ _____
III.	Utilitarian Definition	Social Scientists use this concept in order to interpret and explain the following types of phenomena: _____ _____ _____ _____ _____

Figure 1. The Three Dimensions of Defining Concepts

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Besides providing for increased understanding of the more abstract dimension of the concept, the conditional and utilitarian dimensions serve to provide clarity to those who desire or need more content-specific definitions.

The three-dimension approach to defining concepts treats each concept as an abstraction, in terms of the conditions looked for by social scientists, and by contextual examples. This approach also provides insight into the relationships which exist between and among concepts. In the process of defining a concept along three dimensions, one begins to see ways concepts tend to cluster with other concepts.

Concept Clusters:

In the process of analyzing social studies content and social phenomena, one is aware that in many instances, certain conditions tend to occur in close proximity to each other. These conditions appear to be related indirectly or concommitantly to one another. In most instances one does not find a concept (or a condition consistent with a concept-label) appearing in isolation. In fact, the nature of the entire social studies field suggests that as an individual finds one concept (set of conditions) present, he usually finds conditions consistent with at least one other concept also present. For exapmle, when one finds a situation where conflict exists, he usually finds instances of violence, competition, and polarization also present. This pattern of relationship among concepts suggests that rather than approach social studies concept-based instruction in terms of a number of randomly selected or isolated concepts, a "concept cluster" can be identified and used.

A concept cluster centered around the concept conflict may include any number of additional (note - additional not subordinate) concepts. For example, the following concepts may be clustered with "conflict:" competition, violence, polarization, social solidarity, relative deprivation, norm, and role. In effect the cluster approach recognizes that within social studies events and data, concepts tend to appear in multiples and in combination with other concepts. The cluster provides a useful construct to describe and analyze the kinds of social phenomena studied by social scientists. Furthermore, use of this construct enhances the possibility for knowledge of one concept in a given cluster to broaden and deepen knowledge of other concepts in the same cluster.

Rule Learning:

The adoption of the concept cluster approach also allows one to extend social studies instruction into the rule-learning level of the Gagne model. Because the concepts included in a given concept cluster are already related within the same concept domain, the concept cluster approach facilitates the formulation of logical relationships among social studies concepts. One way to state relationships among concepts is in the form of rules. In Gagne's language, one forms a rule by chaining two concepts. Since rules are propositions that are sufficiently probable to warrant verification in particular cases, social studies rules should be based on logical and empirical grounds. For exapmle, the rule "If conflict exists, then violence is likely," not only chains the concept conflict with the concept violence, but it also states a proposition that has a high logical probability of being valid. Given a set of data to be interpreted, social studies rules, especially when using concepts from within a given concept cluster, suggest a relationship that has a high probability of occurrance and as such are worthy

of consideration and investigation. In reference to the above example, in situations where conflict is present, there is sufficient reason (by logical relationship) to believe that violence will or may also be present.

When stated, social studies rules can take the form of "If . . ., then . . . ." conditional statements; i.e., "If concept A is present, then concept B is also likely to be present." This form of statement allows one to see more clearly the relationship between two concepts such that as data are analyzed and one concept of a given cluster is found to exist, then one should look for and expect to find other concepts as well. These rules can be checked empirically against the data presented in a situation, and they can be tested logically by inferring what is probably true but not provided specifically in a situation as given.

Problem-Solving Skills:

At the problem solving level rules are to be combined in order that students interpret complex social situations and make meaningful policy decisions relative to the situation being studied. The Gagne model allows for a number of plausible solutions to fit a given problematic situation. Since social phenomena and decision-making circumstances frequently allow for several possible solutions, activities at the problem-solving level cannot be restricted to one correct answer or solution. The teacher may ask students to hypothesize reasonable causes of some event or behavior given in the data and to state the causes in the form of combining rules or stating a relationship between two rules. For example, a student might explain a problem situation with a statement, "If people are polarized, they may experience role conflict and cause violence to

others." The teacher may ask students to develop social studies by which a problem presented to them can be resolved. The teacher may ask students to utilize the rules they have studied to analyze a problematic situation and project what will probably happen next and what might be done to prevent or enhance the expected occurrance. These are central examples of problem solving within the field of social studies instruction and are consistent with the Gagne model when it is extended into the social dimensions of human interaction.

One way to assist teachers to plan for and monitor student problem solving is in terms of the verbal categories of behavior students use during this process. Students who are engaged in problem-solving utilize configuratively the following procedures: they identify alternative policies; they consider the criteria they use for making decisions; they state imperative positions or courses of action which should be taken; they consider the consequences of policies; they describe the constraints and limitations presented by the situation; and, they state their preferences for certain policies, criteria, and consequences. According to the extended Gagne model, students learning and operating on the problem-solving level would be engaged in using these same procedures and processes while chaining appropriate concepts and rules already learned. Therefore, activities at the problem-solving level should be written so that students would use preferential, consequential, criterial and imperative categories of verbal behavior.[4] These activities should

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[4]The model of problem-solving described herein as categories of student verbal behaviors is based upon a model of decision-making and problem-solving found in Value Clarification in the Classroom: A Primer (Casteel and Stahl, Goodyear Publishers, 1975). The theoretical framework from which this model was built is found in The Social Science Observation Record: Theoretical Construct and Pilot Studies, (Casteel and Stahl, 1973).

also require students to chain rules to explain the problem situation, to support or defend a policy option, or to predict the next step likely to follow in the given situation.

To create activities for the purpose of developing problem solving skills, the type of problems students are to resolve as a result of instruction are pre-determined by the teacher. The categories of student verbal behavior consistent with the process of problem solving are known. However, the particular combination(s) of rules, the explanation of relationship among rules, and the suggested policies for resolving the given problem are left open to student thinking.

A MODEL FOR PLANNING AND INSTRUCTION

In order to plan for and develop instructional activities for each of the upper five levels of the Gagne model, the five types of learning congruent with these levels can be arranged in a hierarchy and visualized as stair steps (Figure 2). According to this model, when one begins to plan instruction, he first identifies the kinds of problems students are to resolve as a result of the instruction. Having identified the kinds of problems to be solved, one isolates the rules students are to combine in order to analyze and solve the problems. Knowing the rules, one analyzes the rules in order to determine the concepts that are to be diagnosed for and, if necessary, which are to be taught. Working knowledge and understanding at the conceptual level would require the ability to discriminate among phenomena using defining attributes. Such discriminatory abilities are dependent on student learning of prerequisite verbal associations.

The order of planning is to be contrasted with the sequence of instruction. In diagnosing and planning, the teacher moves from the

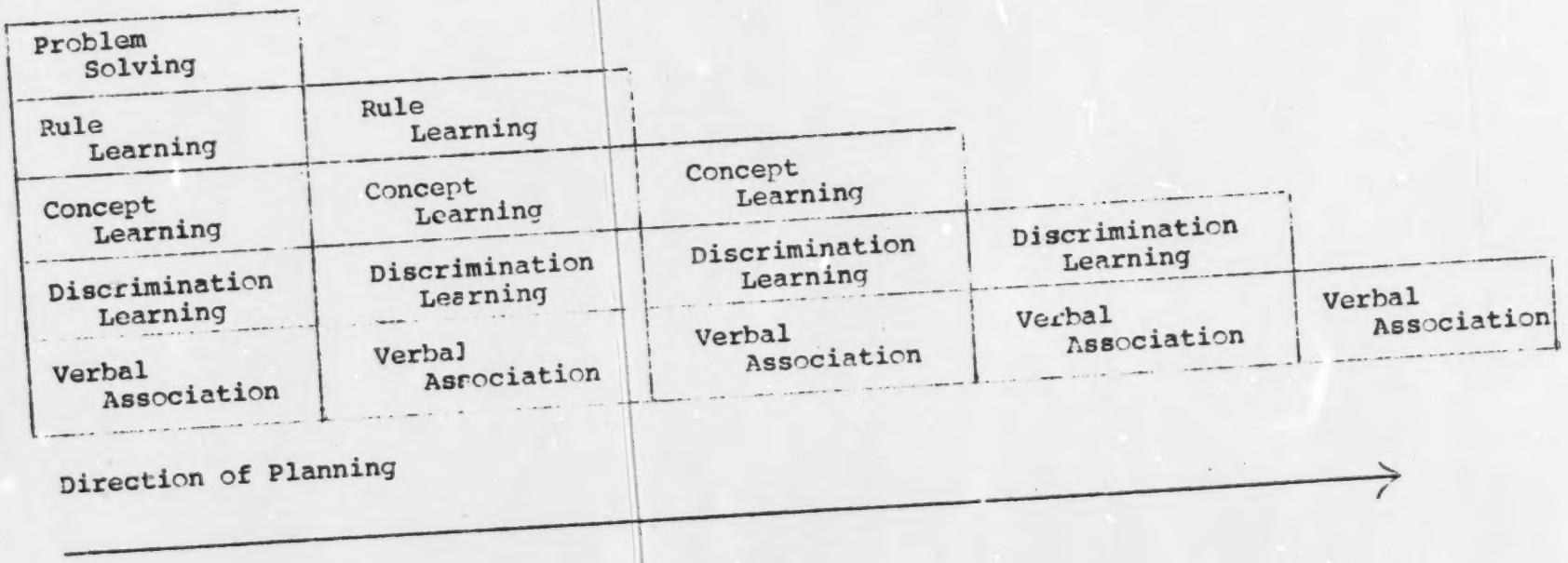

Figure 2: Gagne's Hierarchy as Applied to Planning Instruction

complex (e.g., problem solving) to the more simple learning tasks (e.g., verbal associations). In teaching, one moves from the simple (e.g., verbal associations) to the more complex learning tasks (e.g., problem solving). A visual description of how Gagne's model is used in order to sequence instruction is presented in Figure 3.

Instructional activities consistent with each of the five levels tend to function in these ways. First, they help identify those students who cannot operate successfully on a given level. Second, they help identify those students who are already operating on a given level. And after taking these two functions into account, they can serve to provide the conditions which should enable students to build upon their lower level learnings in order to develop higher level learnings. In Gagne's language, students would transfer certain understandings from one level to assist them in learning at the next level. Used in this way, these instructional activities then become learning activities for students. When students demonstrate successful completion of one or more learning activities on a given level, then the teacher has available data on the basis of which he can infer that student learning has taken place.

Examples of activities for each of the five levels are to be found in the following pages. Each of these activities can serve as a model for those who desire to develop student learning activities consistent with one or more levels of Gagne's hierarchy of learning. Prior to presenting the activities serving as models, the following "advance organizers" may facilitate the reading and understanding of the examples as models.

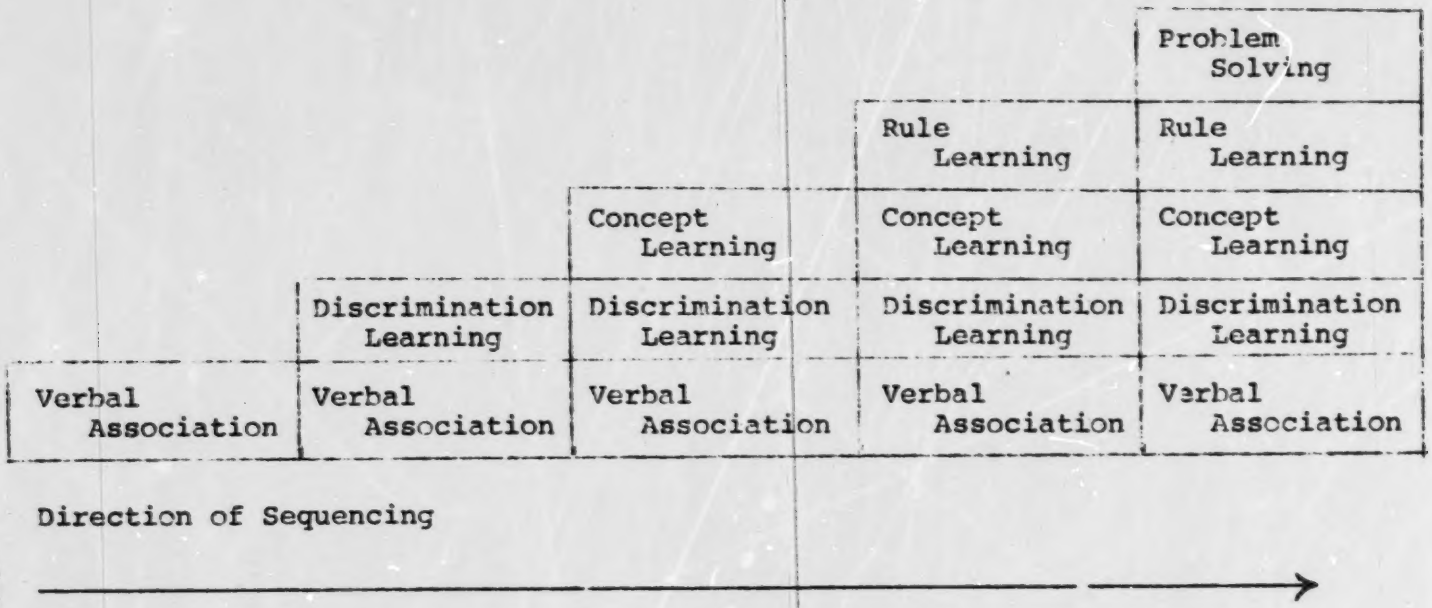

Figure 3: Gagne's Hierarchy as Applied to Sequencing of Instruction

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In varying lengths and degrees of complexity, activities for each of the five levels include the following considerations and components:

(1) An understanding of the focus of the specific level of learnings for which the activity was designed (e.g., The focus of verbal association learning is student understanding of the vocabulary and the naming of the definitions presented.);

(2) A statement of the focus of the particular activity being used (e.g., In one form of discrimination level activity, the focus of the activity is on student use of the concept definition provided to him by the teacher.);

(3) A statement of the specific objectives of the activity (e.g., Given a concept definition in writing, students will be able to use the definition to identify correctly the examples and non-examples of the definition.);

(4) A set of pre-instruction readiness questions for the teacher to answer in order to ensure adequate instructional set (e.g., Have students successfully demonstrated discrimination level skills?);

(5) A set of directions or instructions for students to follow (e.g., After reading the definition provided, first rewrite this definition exactly as it is stated and then rephrase it in your own words.);

(6) A situation or context as the body of the activity (e.g., At the rule learning level, a descriptive narrative, story, cartoon, etc., is provided which can be explained or interpreted by linking two concepts.);

(7) An answer or decision sheet for student to mark their responses (e.g., You are to mark your responses on the space provided to the left of each of the examples.);

(8) A set of activity follow-up questions and transfer-readiness data (e.g., Are students able to state why the examples selected are illustrative of the concept?).

Examples of instructional activities which collectively serve as a model for planning and creating social studies activities for attaining complex levels of student learning are presented below:

	Verbal Association Level	Discrimination Learning Level	Concept Learning Level	Rule-Learning Level	Problem-Solving Level
FOCUS:	Student comprehension of the definition of the concept being studied.	Student utilization of the concept definition to distinguish between examples and non-examples.	Student use of the concept label as an abstraction for purposes of classification.	Student chaining of one concept with another to form "If..., then...." propositions.	Student chaining of rules to solve a problem, explain a situation, and justify a policy.
OBJECTIVE:	Given a concept definition in writing, students will be able to correctly write a paraphrased definition consistent with the original definition.	Given a concept definition in writing, students will be able to use the definition to identify correctly those situations which are examples and non-examples of the definition (concept).	Given only a concept label, students will be able to select examples illustrating the concept, select examples from non-examples, or, interpret a situation using the concept as the basis for interpretation.	Given a situation, students will be able to explain it in terms of a rule he has developed on his own or has selected from a set of rules the one that best fits the situation.	Given a problematic situation, students will be able to (a) resolve it by selecting the best policy from among those listed; and (b) state the basis for their decision in the form of chained rules. /or/ (a) explain the situation and (b) project a policy that ought to solve the problem in terms of chained rules.
INSTRUCTIONAL SET:	Have you defined the concept (a) abstractly, (b) according to conditions used by the social scientists, and (c) by example? Have you written an abstract definition for your students to read? Can your students read and comprehend the definition?	Have students successfully demonstrated an understanding of the written definition? Can students read and comprehend the examples in the activity you have prepared?	Have students successfully demonstrated discrimination level skills? Can students pronounce correctly the concept label? Can students read and comprehend the situation or examples provided in the activity?	Have students successfully demonstrated concept level skills with at least two concepts? Can students use the "If..., then...." language of the rule level propositional statement? Can students read and comprehend the situation provided in the activity?	Have students successfully demonstrated rule learning skills linking one concept with at least two other concepts? Are students able to state the "If..., then...." relationship in their own words? Can students read and comprehend the situation provided in the activity?
DIRECTIONS GIVEN TO STUDENTS:	After reading the definition provided, first re-write it as it is stated and then rephrase it in your own words.	Using the definition provided, study each situation provided below and identify each example which fits the definition with a plus (+) and each non-example with a zero (0).	Below you will find a situation which illustrates the concept of ____. After reading the situation, select the reason which best explains why the concept has been illustrated. /or/ Select from among the examples presented below those which are examples of the concept ____.	Below you will find a situation. Select the statement which best explains what happens in the situation. /or/ Initiate single statement, explain why the things in the situation happened as they did.	Below you will find a problematic situation. You are to select the best policy from among those provided that you believe will resolve the problem. Once selected you are to provide the basis for selecting this policy. /or/ Explain the causes of the problem as provided in the situation and project what policy ought to be adopted in order to resolve the problem and state the basis for your projection.
FORM OF THE ACTIVITY:	Students are provided with a written definition of the concept on a sheet of paper or the chalkboard.	Students are provided with a written definition of the concept, a set of directions, and four situations--at least one of which is an example of the concept definition	A descriptive narrative, a graph, a cartoon, etc. serving to illustrate the concept. /or/ A set of four examples--at least two of which illustrate the concept.	A descriptive narrative, a story, etc., which can be explained by linking two concepts.	A descriptive narrative or story of a problematic situation which is capable of being explained or resolved by linking two or more rules.
FORMAT OF THE DECISION SHEET:	Any paper on which a student can write his definition. (In some cases, he may state it orally.)	The same sheet which contains the four situations where students were to mark the correct answers with a plus (+).	A set of four options, one of which is a statement consistent with the concept, which students are to select the option(s) which fit the concept. /or/ A sheet with a set of four examples where students can mark the examples of the concept.	A space on the activity sheet where the student can write a one-sentence statement explaining the situation. /or/ A set of propositions listed on a sheet of paper so that students can identify the proposition that correctly explains the situation.	A list of possible policies to resolve the problem given in the situation where students are to check their choice, and space so that students can state the basis for their choice. /or/ A space where students can explain the causes of the problem, state the course of action that ought to be taken and state the reason they believe this action can resolve the problem.
ACTIVITY FOLLOW-UP AND TRANSFER READINESS DATA:	Have you made sure that students can read the definition? Were students' paraphrased definitions consistent with the original abstract definition?	Are students able to state why the examples selected are consistent with the concept definition? Can students perform as well when provided with additional activities on this level?	Are students able to state why the examples selected are illustrative of the concept? Can students perform as well when provided with similar activities on this level with the same concept? Can students perform as well when provided with similar activities on this level with other concepts?	Are students able to state why the rules chosen can be used to explain the situation? Can students perform as well when provided with similar activities on this level with these same two concepts? Can students use other concept chains when provided with similar activities on this level?	Are students able to state how the chained rules can be used to explain the situation or justify their policy choice? Can students perform as well when provided with similar problem solving situations with the same concepts and rules? Can students recall and explain the procedures or steps they followed in attempting to resolve the problem?

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I. Creating the Conditions to Develop Verbal Association Learning

A. Focus of the learning activity:

Students can comprehend the definition of conflict. In this case, the definition for conflict is, "If and only if there are two mutually incompatible entities within a system, then there is conflict."

B. Objectives of the learning activity:

Given a written definition of conflict, students will be able to write correctly a paraphrased definition consistent with the original definition.

C. Instructional set;

1. Is verbal association learning activity consistent with the concepts and rules they will need at the problem-solving level?

2. Is this definition a product of empirical study and synthesis?

3. Is this abstract definition written so that it is easily available to your students?

4. Are your students able to read and comprehend the abstract definition?

D. Directions given to students:

After reading the definition of conflict, first rewrite it exactly as it is stated and then rewrite it paraphrased in your own words.

E. Form of the activity:

Students are provided with the following written definition of conflict on a sheet of paper, the overhead projector screen, or the chalkboard. If and only if there are two or more mutually incompatible entities within a system, then there is conflict.

F. Format of the decision sheet:

Any paper on which students can write their definitions.

G. Activity follow-up:

1. How have other students paraphrased their definition of conflict?

2. Can students extend the definition to include group conflict as a form of conflict?

3. Have students demonstrated comprehension of the definition of conflict?

II. Creating the Conditions to Develop Discrimination Learning

A. Focus of the learning activity:

Students can use the definition of conflict to distinguish between examples and non-examples of group conflict.

B. Objective of the learning activity:

Given a written definition of conflict, students will use the definition to identify correctly the example of group conflict from the set of examples and non-examples provided.

C. Instructional set:

1. Have students demonstrated understanding of the definition of conflict at the verbal association level?

2. Can students read and comprehend the four examples provided to them in the activity?

D. Directions given to students:

Sometimes when people or groups struggle over beliefs and goals, their behavior can be described as group conflict. At other times, their behavior may take the form of competition or violence. Usually, conflict is present when people or groups seek to obtain the same goal which only on can have through means which are not regulated by rules.

Below you will find four situations and a definition. Use the definition of conflict to help you decide which situations show conflict and which do not. Then mark the example of conflict with an "X."

E. Form of the activity:[5]

The set of directions; the definition of conflict; the set of four situations.

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[5]Needless to say, the teacher may choose to write the definition on the board or have students refer to their notes. The examples or situations also may come from an overhead transparency, newspaper clipping, the textbook, etc. Such variation of mediation and situational examples are suggested for all five levels of the hierarchy.

The four situations are:

_____A. A football game.

__X__B. A prison riot.

_____C. A jazz concert.

_____D. A political campaign.

F. Format of the decision sheet:

Students may mark their responses on the space to the left of the example(s) of conflict. They may also be asked to state the basis for their choice. Such a decision sheet would include a statement similar to the following: "Situation_____is an example of conflict because_____."

G. Activity follow-up:

1. Why is a prison riot an example of conflict?

2. Why isn't a football game an example of group conflict?

3. Can you list some other examples of group conflict?

4. Are games like monopoly and poker examples of conflict? Explain.

5. According to our definition, conflict requires at least two opposing parties. If this is so, why isn't a political campaign an example of conflict?

H. Transfer readiness data:

1. Do students know why the situation chosen was an example of conflict?

2. Do students need other similar activities to develop and test their understanding of the concept at this level?

III. Creating the Conditions for Developing Concept Learning

A. Focus of the learning activity:

Students can use their understanding of conflict in order to distinguish between or classify examples and non-examples of group conflict.

B. Objective of the learning activity:

Given only the term "group conflict," students will be able to examine a group of situations and will identify correctly the situation(s) or example(s) of group conflict from the set of examples and non-examples provided.

C. Instructional set:

1. Have students demonstrated understanding of conflict and group conflict at the discrimination level?

2. Can students comprehend the four situations provided to them in this activity?

3. (optional) Remembering that students no longer can use their written definitions, can students communicate the definition of conflict to others through discussion?

D. Directions given to students:

Below are four examples of human behavior. Choose the example which shows group conflict. Mark your choice with an "X."[6]

E. Form of the activity:

The set of directions; and
The set of four situations.

Which of the following situations can be described by using the concept of conflict?

_____A. the bombing of Beta's main cities by the air force from Alpha.

_____B. the slapping of Rich in the face by his sister Rachael.

_____C. the secret police of Terroria brainwashing their political prisoners.

__X__D. the disagreement between labor and management over a pay increase.

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[6]The teacher may wish to include more than four situations in each set and may want to include more than one example of conflict within each set. If so, then the directions should be changed accordingly.

F. Format of the decision sheet:

Students may mark their responses on the space to the left of the example(s) of conflict. They may also be asked to state the basis for their choice. If so, the decision sheet would include a statement similar to the following: "Situation____is an example of conflict because_____."

G. Activity follow-up:

1. Why would a war be an example of conflict, but a bombing would not?

2. How would situations A, B, and C need to be changed to make each an example of conflict?

3. If a disagreement between labor and business is an example of conflict, would a labor strike also be an example? Explain.

4. A presidential campaign under normal conditions is not considered an example of conflict. Why is it not regarded as a conflict situation? How might it become an example of conflict?

H. Transfer readiness data:

1. Are students able to explain why the examples selected are illustrative of the concept?

2. Can students perform equally well when provided with similar activities on this level with the concept conflict?

3. Can students look at other situations and identify instances where conflict is present (i.e., students can use the concept as an analytical construct)?

4. Do you need to spend time with the students to help them understand the relationships implicit in an "if . . ., then . . . ." conditional statement? (This is a must if they are to operate on the rule learning and problem solving levels.)

IV. Creating the Conditions for Developing Rule Learning

A. Focus of the learning activity:

Students can use their understanding of two or more concepts to form logical relationships chaining two concepts in order to explain or interpret a situation. In this case, they can use a form of the proposition. "If group conflict occurs, then violence is likely."

B. Objective of the learning activity:

Given a situation, students will be able to explain it in terms of a rule they have developed on their own (or have selected from a set of rules provided to them) that fits the situation.

C. Instructional set:

1. Have students demonstrated understanding of the concept conflict and at least one other concept at the concept level? (In this case, the concept violence.)

2. Have students been introduced to examples of rule using the "if . . ., then . . . ." conditional proposition to get them familiar with the form of statements they will need for this level.

3. Can students comprehend the situation provided to them in this activity?

D. Directions given to students:

Below you will find a situation. In a single statement, explain why the things in the situation happened as they did?[7]

E. Form of the activity:

The set of directions;
A situation which contains an example of the rule at the focus of this activity; and
A space where students can write a short statement which explains the situation.

The Situational Content

Sam's Place is a restaurant located near the subway station where many black people who live in Rosewood catch the subway to work across town. Quite a few blacks wanted to eat breakfast in the restaurant while they waited for their train. However, the owner of Sam's Place would not serve black people, even though the law required him to do so.

One afternoon, a group of black citizens staged a peaceful demonstration in front of Sam's Place.

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[7]or; From the list of statements provided, select the statement which best explains what happened in the situation.

About eighteen of them held picket signs and walked back and forth for several days. The owner of Samps Place was enraged. He believed that he had the right to serve whomever he pleased, no matter what the law said. After several days of the demonstration, the owner and some of his supporters rode down to the restaurant armed with clubs. They planned to scare the demonstrators without physically injuring them. As soon as they got out of their car, fighting broke out between the two groups.

F. Format of the decision sheet: (two formats are proposed here)

1. After reading the situation above, write in the space below a statement that correctly explains the situation.

/OR/

2. The best explanation for what happened in the story is:

_____A. Peaceful demonstrations often become violent.

_____B. Violent situations often lead to conflict.

_____C. Competition often cause groups to use violence.

__X__D. Conflict situations often lead to violence.

G. Activity follow-up:

1. In what ways might the law preventing discrimination have been a cause of the conflict? the violence?

2. In what ways might the fighting have been avoided? Explain.

3. Suppose you had been a police officer assigned to break up the fight, who would you have blamed for the fighting? Explain.

H. Transfer readiness data:

1. Are students able to support their interpretations of the situation provided in the activity?

2. Can students perform equally well when provided with similar activities on this level with these and other concepts?

3. Do you need to spend time with the students to help them understand how rules can be chained in order to form relationships at the problem-solving level?

V. Creating Conditions for Developing Problem-Solving Skills

A. Focus of the learning activity:

Students can analyze a series of events on board the Battleship Farjossa by chaining two or more rules and can suggest possible policies that might be followed to solve the problem situation. In this case, they can chain rules involving the concepts of conflict, polarization, norm, and violence.

B. Objective of the learning activity:

Given a description of the events and problem on board the Battleship Farjossa, students will be able to explain it in terms of chaining rules and can use this analysis to suggest possible solutions to resolve the problem situation.

C. Instructional set:

1. Have students successfully demonstrated rule learning skills with the three concepts used in this activity?

2. Are students able to state logical propositions linking two or more rules either in "if . . ., then . . . ." form or a paraphrasing of it?

3. Can students read and comprehend the situation provided in the activity?

D. Directions given to students:

Read the story below about events and the problems on board the Battleship Farjossa. Following the story you are to explain the reasons for the situation; state the basis of your reasoning; and, identify a policy that could help resolve this situation.

E. Form of the activity:

The set of directions;

The narrative about events on board the Battleship Farjossa; and,
The decision sheet.

The narrative:

Admiral Fisher, the commanding officer of the Battleship Farjossa, is worried. The officers and men on board his ship are dividing themselves into two opposing groups: the Atlanticans and the Pacificans.

Most of the Atlanticans want the ship to follow certain traditions and procedures which have always been followed in the Marinian Navy. They like having clubs and other on board activities including sports and games. They especially like the opportunities they have to meet in the evenings for special activities and educational sessions.

Since they control a majority of the ship's votes, the Atlanticans always decide the types of activities and sporting events that will be held, what the requirements are for participation in the activities, and what the ship's treasury money will be spent on. They even set up the dress and behavior codes some of which outlaw specific styles of dress and certain behaviors enjoyed by many of the Pacifican officers and men.

Since leaving port over two weeks ago, many of the Pacificans grew more and more hostile about the treatment they received from the Atlanticans. Some expressed negative statements about the ship and its commanding officer, himself an Atlantican, for allowing such domination to continue. The Pacificans resented the fact that only they were assigned to the late night watch. Besides this, they had to wake up at 5:30 to prepare breakfast for the remainder of the ship's crew. Other grievances included the fact that they did not have much say in the formulation of the ship's policies. Even worse, they had no say in the enforcement of these policies.

This morning at 5:30, the Pacificans refused to get out of bed. They refused to prepare breakfast for the rest of the crew. In addition, they demanded that unless they had more voice in the setting up of the ship's policies and the subsequent enforcement of these policies, they would not assume the night watch until their demands

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were met. Within minutes, fighting broke out among members of the crew. Several sailors and officers were taken to the sick bay for medical treatment.

After an hour, order was restored on board the ship. But the peace was a cautious, tentative one. Another minor incident could disrupt the entire ship and cause serious injury and damage to both crew and ship. Unless something were done, Admiral Fisher's ship would soon be useless to his nation's navy.

F. Format of the decision sheet:

Admiral Fisher, the commanding officer, can't decide what to do. He wants all the men on board the Farjossa to get along and to work together. He sets up a special committee of officers and men to advise him. You are selected as a member of this committee.

After studying the events and problems on board the ship, you inform the Admiral that the reason for the occurrances on board the ship is_____
_____
_____.

The basis for citing this as the reason for the trouble is that_____
_____
_____.

As a consequence of this analysis, the committee believes Admiral Fisher should pursue the following course of action to remedy the situation on the Battleship Farjossa:_____
_____
_____.

G. Activity follow-up:

1. Suppose the Admiral asked you to state the reason why your suggestion should be followed, what would be your response?

2. What other possible courses of action did you consider when trying to decide what policy to recommend to the Admiral?

3. Are there any similarities between the situation on board the Farjossa and situations involving the treatment of minority groups in America (e.g., South Boston)? Explain.

4. Would you make the same policy recommendation in these other settings? Explain any differences.

5. How did you and your committee arrive at the recommendation you made to Admiral Fisher?

H. Transfer readiness data:

1. Are students able to explain the procedures they followed in trying to interpret the situation on board the Farjossa, in stating the basis for their interpretation, and in determining the right policy to recommend to the Admiral?

2. Can students identify each of the separate rules they considered while trying to interpret the situation on board the Farjossa?

3. Can students perform equally well when provided with similar activities on the level with these same concepts and rules?

Teachers who value those student behaviors likely to be stimulated by these five levels of activities can use the modified Gagnean model in order to plan and sequence instruction. The activities presented above provide models for social studies teachers who wish to plan and develop classroom instructional activities to facilitate student learning at one or more of these levels.

DIAGNOSING AND ASSESSING STUDENT LEARNINGS

Not only can the model be used as a basis for planning and sequencing instruction, but it can also be used as a basis for creating pre-objectives and test-items at each level. Having identified the types of problems students are to resolve, and having identified the rules, concepts, and verbal associations students will need in order to solve the problems, pre-objectives and test items designed to measure the current level of student learnings can

be developed. Student learnings can be diagnosed in order to determine the skill level at which instruction should begin. Ideally, this diagnosis would occur prior to the planning and development of learning activities or the initiation of instruction. Having developed and administered the diagnostic instrument, the test results provide information for planning and initiating instruction. In the same way test items can be used to develop a diagnostic instrument, pre-objectives and test items may also be developed and used to assess the effects of instruction. In order to be effective, test items should be consistent with the objectives set for each particular item. When written for this purpose, these objectives are referred to as "pre-objectives."

Pre-objectives defining in measurable terms the observable behaviors to be exhibited by the student at the verbal association, discrimination, concept, rule learning and problem-solving levels can be written. Since the problem solving level is more open ended in that a variety of solutions may be proposed for a given problem, pre-objectives for the problem-solving level are more difficult to write. This being the case, one many present the problem situation to students and attempt to monitor their verbal interactions in terms of the patterns of statements they use in resolving the problem.[8] In this way, the students' verbal statements provide data by which the teacher can infer that students possess skills associated with the problem-solving level.

Pre-objectives for all five levels can be written to correspond

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[8]Special emphasis is placed on the Man-centered Realm of the Social Science Observation Record (SSOR), (Casteel and Stahl, 1973).

to either of the first two dimensions of a concept's definition; (1) the abstract definition; or, (2) in terms of the conditions cited by social scientists. The second dimension of the definition of the concept conflict includes at least four "types" of conflict: group conflict, role conflict, motivational conflict, and cognitive dissonance. In other words, if one were studying the concept conflict and wanted to develop pre-objectives and test-items, each pre-objective would specify the "type" of conflict the student was to identify in the test item that was to follow. For example, in one discrimination level pre-objective, the student might be given the definition of conflict and four samples of human behavior from which he is to identify the example of group conflict. In similar fashion, a second discrimination level pre-objective may focus on motivational conflict; a third on cognitive dissonance. For the development of pre-objectives and test items at the concept learning level, the same pattern as that for the discrimination learning level can be followed. At the concept level, the definition of the concept being tested is withheld from the student to determine his understanding of the concept as an abstraction.

Rule learning pre-objectives state that students are to interpret a situation as given by selecting the statement (from among four provided) which chains a given concept with another concept in the concept cluster to explain the situation. For example, one rule learning pre-objective may chain conflict to social solidarity to form the rule, "If there is conflict, then social solidarity is likely." Students would be expected to study the situation provided in the test item and to select the rule or proposition from among the four rules listed

which best explains the situation. In the rule learning example cited above, the corresponding test item would include a situation which could be explained in terms of the rule, "If there is conflict, then social solidarity is likely." Other pre-objectives and test items at the rule learning level would chain a given concept with any of the remaining concepts in its particular concept cluster.

As with the instructional activities, the contextual situations provided in the test items may be hypothetical or content-specific in nature. A particular social science discipline does not have to be used to provide the factual base for the items. In other words, items may be written which are free from the specific content or contextual situations from which the concepts originally were learned (like the Civil War, the "Black Power" movement, the "Watergate Affair," etc.) in order to test student knowledge of the concepts or rules in abstract situations and to test student ability to use the concepts or rules within the specific subject field area he is currently studying. Employing hypothetical situations enable the social studies teacher to use the test items regardless of the specific content being studied and provide information indicating whether the student does in fact know the concept or rule as an abstraction or merely within content-specific situations similar to those in which he learned them. Test items written in a hypothetical mode may also be used to infer a student's skill level in regard to the specific content under study.

REACTION OF CLASSROOM TEACHERS AND SUPERVISORS TO THE MODEL

Social studies teachers and supervisors from three Florida counties

(Marion, Monroe, and Orange*) were assembled to assess the communicability and utility of the Gagne model and prototype materials developed from the model. Following each of three workshops which included an introduction to the modified Gagne model, an overview of the project materials, and the reading of two prototypes, a 23-item questionnaire was administered to the thirty-one workshop participants. Six (6) supervisors, eleven (11) elementary teachers, eight (8) junior high teachers, and six (6) secondary teachers responded to the questionnaire by checking one of six categories on a Likert-type scale ranging from strongly agree to strongly disagree.

The data collected by the questionnaire revealed that the workshop participants perceived:

1. the model and the prototype materials as being very valuable in demonstrating one way of applying Gagne's levels of learning to social studies instruction;
2. the activities as being read and understood by students;
3. the pre-objectives as being clearly stated and worthy of achievement;
4. the test items as being appropriate and adequate to measure student learning as defined by the pre-objectives;
5. themselves as using the teaching activities and recommending their use to other teachers;
6. themselves as using the model to develop their own instructional activities and recommending to other teachers to do the same.
7. themselves as using the test items and recommending their use to other teachers; and
8. each of the eight concepts in the "conflict" concept cluster as being appropriate for students to study and learn.

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*The county seats of these counties are located in Ocala, Key West, and Orlando respectively.

The questionnaire responses provide adequate data to infer that social studies teachers and supervisors do value concept based and organized instruction and learning, and that they value materials and workshops which provide them with ways of learning and applying concept based models such as Gagne's to their own school situations. More importantly, these data suggest that the modified Gagne model is a useful construct for teachers and supervisors who desire ways of teaching concepts and problem-solving skills in intermediate and secondary social studies classrooms.

SUMMARY

Gagne's model as presented in THE CONDITIONS OF LEARNING (1970) can be modified, extended, and used to form a logical model applicable to planning and teaching the social studies. This model can be used to develop logical planning procedures and to sequence instructional activities consistent with attaining complex levels of student learning. Pre-objectives and test items designed to diagnose and assess student learnings can be written. The Gagne model, as modified, was perceived by social studies teachers and supervisors to be a useful construct.

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